

on known drug metabolic routes suggests that a clinically significant interaction is unlikely with the following:

aminoglycosides
amphotericin
AZT (no dose adjustment needed)
cidofovir
dapson
foscarnet
ganciclovir
sulphonamides

(3) Clarithromycin has a large therapeutic index and no dose changes are recommended beyond the usual reduction in renal failure.

As a summary, this chart may create problems in that it excludes not only potentially hazardous agents but also those that are of use. An omission from the list could be seen to endorse or discredit the drug.

All the antivirals listed have drugs contraindicated for co-administration. A reference should be made to these on the chart or, at least, for the prescriber to refer to the summary of product characteristics for them.

Appreciating the need for brevity, a number of useful agents are not covered from groups such as antibacterial, antimycobacterial, and gastrointestinal drugs.

Drugs with significant interactions include:

(1) Anticonvulsants—levels of various anticonvulsant drugs are altered and need monitoring. These include phenytoin, carbamazepine, and phenobarbitone (levels increase and ritonavir levels decrease); lamotrigine and valproate (levels decrease).

(2) Psychotropics—levels of various psychotropics are increased and again require monitoring. These include:

chlopromazine
fluoxetine
fluvoxamine
haloperidol
maprotiline
paroxetine (avoid)
thioridazine
trazodone
most tricyclics

(3) Itraconazole, miconazole, and ketoconazole levels are increased with a reduction in ritonavir levels. A dose reduction of 50% is suggested.

The symbols used are ingenious but could be misconstrued. The meaning of the skull and crossbones is unclear and could generate unwarranted alarm. From the cluster of agents listed with astemizole it would seem to indicate a contraindication. This clearly is not the case with the oral contraceptive in which pill failure is the issue. The double exclamation marks with food indicate the 15% increase in absorption but this is a useful effect and is advised in the prescribing regimen.

It may also be prudent to indicate that where boxes are left blank this only represents the extent of current data.

Having maintained a stance of reporting all known and theoretical interactions from the earliest stage of clinical drug usage, it is easy to appreciate the complexities involved with compiling interaction charts with this drug class. However, this may actually increase the hazards of such a format. Prescribers will have a natural tendency to latch on to any comprehensible summaries in preference to more complex data or cross reference to the accompanying text.

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- 1 Heylen R, Miller R. Review: Adverse effects and drug interactions of medications commonly used in the treatment of adult HIV positive patients: Part 2. *Genitourin Med* 1997;73:5–11.

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Reply

We agree with Dr Simmonds that the subject of drug interactions between antiretrovirals and other drugs is an intricate and increasingly complex subject.

All the statements made in our articles^{1,2} were explained in the text as well as displayed visually in the tables and were also supported by references.

The information contained in our article about ritonavir came from several sources, but mainly the 'Norvir' product information sheet for August 1996. Since our article has been published, knowledge about the drug actions and interactions of ritonavir has increased substantially. We are grateful to Dr Simmonds for highlighting some of these new data.

Our intention in creating our adverse effects and drug interaction articles^{1,2} with their accompanying visual displays and text explanations of the symbols deployed was to provide the busy clinician in outpatient departments or in the ward setting with the resource to aid identification of major drug effects and interactions. Articles such as ours are not meant to supplant, rather they should complement the important role of hospital pharmacy drug information teams, product information sheets, and drug company medical information departments. We feel that any source of information about drug interactions in HIV/AIDS can only be of benefit to physicians, pharmacists, and to patients themselves.

Faced with this increasingly complex subject, we have begun to develop a computer program to aid physicians and pharmacists in safe prescribing of drugs commonly used in the treatment of adult HIV positive patients.

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- 1 Heylen R, Miller R. Adverse effects and drug interactions of medications commonly used in the treatment of adult HIV positive patients: Part I. *Genitourinary Med* 1996;72:237–46.
- 2 Heylen R, Miller R. Adverse effects and drug interactions of medications commonly used in the treatment of adult HIV positive patients: Part II. *Genitourinary Med* 1997;73:5–11.

MATTERS ARISING

Control of sexually transmitted diseases in Ghana: the real issues!

Sexually transmitted diseases (STDs) constitute a major public health problem in developing countries. However, most developing countries lack an effective and

broad based control programme.¹ This paper discusses some pertinent problems of STD control in Ghana which may be relevant to other developing countries.

The establishment of a national AIDS control programme (NACP) in Ghana in 1986 gave prominence to the control of STDs. Although a separate STD control programme was set up, donors were generally more interested in HIV/AIDS control. It is only since September 1995 that the two programmes have been integrated with one national coordinator. However, the integration has not been completely effected in some regions of the country. STDs and HIV share common transmission routes and control strategies; hence, developing integrated control programmes makes for increased cost effectiveness, impact, and sustainability.² Improved treatment of STDs has been shown to reduce the incidence of HIV by 42%.³ Specially funded annual events such as the AIDS Awareness Month campaigns while they lead to increased condom sales in the short term may not be sustainable in the long term. The collaboration between the NACP and the Ghana Social Marketing Foundation has been more helpful for the promotion of condom use.

Whereas the NACP has a surveillance system in place that includes regular HIV sentinel surveillance among pregnant women and patients attending STD clinics, the STD programme only relies on partial morbidity records from health institutions. Gonorrhoea is the only reportable STD in Ghana; other STDs in women are believed to be reported as "gynaecological disorders".

Problems associated with drug management of STDs include high prevalence of self medication, increasing resistance to antimicrobial drugs, and inconsistent treatment policy guidelines. Seventy four per cent of patients attending an STD clinic in Kumasi self medicated with at least one antibiotic.⁴ Over 90% of gonococci are resistant to commonly used antibiotics—for example, penicillin, tetracycline, and co-trimoxazole; 95% or more are sensitive to newer antibiotics—norfloxacin, cefuroxime, and ceftriaxone.⁵

Earlier treatment guidelines recommended penicillin or tetracycline for male urethral discharge as these drugs were cheap, easily available, safe and, perhaps, effective. These guidelines conformed to a national policy which determined what specific drugs could be prescribed by clinicians (who were mostly medical assistants) at peripheral health facilities. Interestingly, the current treatment guidelines⁶ recommend drugs (for example, ceftriaxone for male urethral discharge) which are neither included in the national essential drugs list nor recommended for use at middle level health facilities. These inconsistencies call for a revision of the national drug policies.

The lack of adequate laboratory facilities in Ghana has also led to a situation where the WHO recommended drugs⁷ are essentially adopted for the national treatment guidelines although other alternatives may be cheaper, more effective, and easily available. A recent evaluation of treatment guidelines for STDs in Zambia revealed a 69.4% cure rate for male genital ulcers owing to a decreased sensitivity of *Haemophilus ducreyi* to trimethoprim-sulpha.⁸ Regional or provincial hospitals in developing countries where adequate

laboratory facilities exist should establish and maintain regular antimicrobial susceptibility surveillance to support local and national STD programmes. The absence of laboratory facilities also prevents microbiological screening of clients seeking intrauterine contraceptive devices (IUCD).

Antibiotic cover is given to IUCD clients to prevent the development of pelvic inflammatory disease. The usefulness of this practice and the implications of drug pressure for the development of antibiotic resistance have not been evaluated.

Lack of adequate funding limits the number of clinicians who can be trained in case management and the frequency with which such training is organised. Training programmes frequently do not cover medical specialists in the public sector or clinicians in the private sector. They are often not problem based or designed to address practical problems such as patient demand and prescriber self interests, and are seldom evaluated. Consequently, they may have little impact on decisions on case management.⁹

Other obstacles to STD control in Ghana are the social stigma attached to the diseases which also influences patient attendance to health facilities and partner notification and management, patient preference for alternative medical care, and the paucity of research. Practices such as female genital mutilation, use of traditional enema syringes in labour wards, as well as the lack of disposable pipettes for drawing capillary blood, etc, and disposable specula for pelvic examinations could increase the risk for HIV transmission.

In order to be more effective control programmes for STDs in developing countries should take account of the prevailing sociocultural environment, be integrated with other primary healthcare activities, be multisectoral, and be supported by relevant epidemiological and health systems research.

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Screening for sexually transmitted diseases in an HIV testing clinic: uptake and prevalence

We read, with interest, the report from Madge *et al*¹ of their free standing HIV same day testing (SDT) service which has been established outside a genitourinary medicine (GUM) framework. Since December 1993 we have been providing a SDT service within our GUM clinic.

The SDT clinic is open one morning a week at our Victoria site and is staffed by a health adviser. Doctors, nurses, and receptionists are available as required from the concurrent GUM clinic. Individuals are interviewed by the health adviser who records information regarding sexual history, initiates safer sex education, provides information about sexual health in general, discusses the issues surrounding HIV testing for that individual, and informs the person of the full range of sexual health facilities available at the clinic, including STD screening, cervical cytology, family planning, hepatitis B vaccination, and psychosexual therapy. Individuals are strongly encouraged to see a doctor for examination and investigation. If infections are detected they are treated immediately according to standard clinic practice. Results are given by the same health adviser together with post-test discussion to reinforce safer sexual practices and to promote sexual health. Any with positive results are seen by a doctor and continuing medical care is offered. Those having other tests such as hepatitis B serology or STD screening are asked to telephone in 1 week's time for the result.

In the first 4 months of the clinic, 83 individuals, aged 18-51 years, were seen. Eighty two proceeded to HIV SDT. Data on these individuals are presented below.

HIV seropositivity was found in one of 11 homosexual men, one of two bisexual men, none of 28 heterosexual men, and none of 42 heterosexual females. One equivocal HIV result was obtained in a heterosexual woman; however subsequent tests were negative.

Previous genital infection was reported in 22 individuals with 36 infections in total.

We concur with Madge *et al*'s findings, not only of a low uptake of STD screening (34% in our cohort), but also of a low prevalence of STDs among the 28 screened (one pelvic inflammatory disease, one non-gonococcal urethritis). This is a lower rate of screening for sexually transmitted disease and of genital infection when compared with people having routine HIV testing in our GUM clinic.²

Thirty three people were tested for hepatitis B, six received hepatitis B immunisation as a result—an 80% delivery rate for homosexual men (table). This is more than three times the rate reported by Madge *et al* and may reflect the ability of GUM clinics to offer immediate immunisation on site rather than offering referral for immunisation.

Over the subsequent year only four of the

83 patients returned for STD screening. Hence, we would caution against Madge and colleagues' suggestion that STD screening could be done at a GUM clinic at a later date.

There is a significantly lower yield of positive HIV results in all risk groups attending this clinic (2.4%) compared with that identified by unlinked anonymous testing in our GUM clinic or on "routine" HIV testing (9.8%) which has a 3 day turn around time in our unit.

Initial SDT data from the free standing clinic at the Royal Free Hospital showed an HIV seroprevalence of 3.9%.³ More recently, the yield from this non-GUM based SDT service has fallen to 2.0%⁴ compared with a steady increase in heterosexual HIV seroprevalence identified by anonymous GUM testing and antenatal screening and a minimal reduction in anonymous HIV seroprevalence among homosexual men attending GUM clinics.⁵ These low seroprevalence rates, especially our failure to identify any heterosexual patients may indicate ever greater numbers of the so called "worried well" attending these facilities.

There is a synergistic relation between STDs, particularly genital ulcer disease, and HIV acquisition and transmission.⁶ Hence, we have concerns about the success of treatment and contact tracing for those in whom an STD was identified among Madge *et al*'s cohort. We would suggest that stringent health adviser arrangements are made to ensure compliance with GUM treatment and follow up.

In this low risk cohort our data would also support the view that limited resources may be better targeted elsewhere. The vast majority of the HIV negative attenders were Europe-born people from the London suburbs and the home counties whose health might be better served by accurate information regarding HIV epidemiology and encouragement to utilise comprehensive sexual health services. Both individuals who were identified as HIV positive were in well known risk groups who might well have attended routine screening services. The large demand for HIV SDT has led us to double our capacity. We have demonstrated that such a service can be delivered within the setting of a comprehensive sexual health service, running within a GUM clinic alongside routine clinics, and staffed by existing clinic staff. However, the value of SDT compared with routine testing remains unclear when considering issues such as "cost per case found", behaviour modification and repeat testing after a window period. We are concerned about the value of services such as these, which primarily serve the worried well and whether limited resources would be better spent targeting HIV testing at higher risk groups. However, we would caution against adopting a strategy of only offering selective STD screening within an HIV testing service—it may be best to interpret the need for STD screening within social and geographical dynamics.

Hepatitis B

	Number screened (n)	Found Hep B s ab + ve	Subsequently immunised
Heterosexual women	13 (42)	0	1
Heterosexual men	7 (28)	1	1
Homosexual men	9 (11)	3 *	4
Bisexual men	2 (2)	0	0

*An additional homosexual man was found to be Hep B core antibody positive.